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# DEPARTMENT OF THE TREASURY WASHINGTON, D.C. 20220

August 13, 2002

MEMORANDUM FOR DEPUTY COMMISSIONER FOR MODERNIZATION & CHIEF

INFORMATION OFFICER

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FROM: Pamela J. Gardiner

Deputy Inspector General for Audit

SUBJECT: Final Audit Report - The Selection, Monitoring, and Management

of Systems Improvement Projects, Such as the Print

Consolidation Project, Need Modification (Audit # 200120010)

This report presents the results of our review of the Print Consolidation Project. The overall objective of this review was to determine whether the Internal Revenue Service (IRS) implemented adequate policies and procedures as required by legislation and Federal guidance to fund and manage the Print Consolidation Project.

Several management reforms enacted in the past decade, including the Clinger-Cohen Act,¹ have introduced requirements emphasizing the need for Federal agencies to improve the processes and methods used to select and manage information technology (IT) resources. The ultimate goal of these reforms is for agencies to focus on managing IT resources and to make sound investment decisions that will measurably increase the performance of the Federal Government. In this review, we examined the current IRS selection, control, and evaluation processes that were applied to the Print Consolidation Project. This project was initiated to support the IRS' strategy of combining corporate data processing activities by consolidating taxpayer notice printing capabilities from 10 locations to 2, the Detroit Computing Center (DCC) and the Ogden Campus.

In summary, we found that the Print Consolidation Project has experienced early success by obtaining and implementing new equipment to alleviate notice printing concerns at the IRS Campuses. In Calendar Year 2000, initial contracts were awarded and the first printers, inserters, and sorters were readied for production at the DCC and

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<sup>&</sup>lt;sup>1</sup> Clinger-Cohen Act, Pub. L. No. 104-106, Division E (1996) (codified at 40 U.S.C. Chapter 25).

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the Ogden Campus. The following year, the consolidated printing sites handled over 20 percent of the IRS' notice print volume, and the contract was awarded for the Notice Delivery System (NDS), a server-based system that will be able to electronically sort notices before printing and provide control of individual notices throughout notice processes.

The IRS has established selection and monitoring processes and executive steering committees to oversee the funds used for the majority of its systems modernization initiatives. However, over \$100 million in funding for initiatives known as improvement projects is independently prioritized and managed by the Information Technology Services (ITS) Operating Divisions each year. We found that no centralized selection and monitoring process has been established for improvement projects, such as the Print Consolidation Project. This makes comparison of competing projects across the IRS more difficult and decreases oversight requirements. Consequently, the IRS cannot ensure that its improvement project funds are being effectively and efficiently used to achieve its business priorities in accordance with Clinger-Cohen Act requirements.

In addition, the IRS selected a solution for the NDS portion of the Print Consolidation Project that required purchase of a system that does not comply with the IRS' Enterprise Architecture.<sup>2</sup> This solution required \$3.36 million in hardware and maintenance costs and \$2.7 million in development costs to customize and tune the NDS over the life of the system. If a compliant solution had been chosen, some of these costs may have been avoided. Instead, such costs reduce the overall benefits the IRS expected to receive from its broader initiative to consolidate its mid-range systems, which includes the NDS.

Another concern is the lack of a standardized life cycle process to guide the development of improvement projects, including the Print Consolidation Project. The Enterprise Life Cycle (ELC) methodology has been mandated for the IRS' Business Systems Modernization initiatives, but a methodology has not been implemented for systems improvement projects. By not using a consistent, repeatable management approach for structuring and controlling the systems development process, the risk that projects will not be completed within budget or on time is increased.

The Deputy Commissioner for Modernization & Chief Information Officer (CIO) should ensure that a centralized, multifunctional investment review process is established and documented for the selection, funding, and monitoring of all the IRS' information technology investments. Planned corrective actions based on the prior TIGTA report<sup>3</sup> to develop objective criteria for the classification of IRS information systems projects should specifically include criteria for systems improvement projects. For the NDS, we recommend that the Print Consolidation Project Office provide a full justification for

<sup>&</sup>lt;sup>2</sup> The IRS' Enterprise Architecture specifies the computer systems on which IRS systems are to be hosted.

<sup>&</sup>lt;sup>3</sup> Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects (Reference Number 2001-20-152, dated September 2001).

procuring a non-compliant solution. We also recommend that the policy of issuing approvals to procure non-compliant, mid-range computer hardware and software be clarified and that Print Consolidation Project management take necessary action to provide proper project control until a systems life cycle process is developed, implemented, and monitored for improvement projects. Finally, all existing improvement projects should comply with basic systems life cycle and project management controls.

Management's Response: IRS management agreed with the recommendations presented in the report. Corrective actions will be taken to develop an information technology capital planning guide for centrally managing information technology investments, submit a waiver to request approval for the NDS to deviate from the Enterprise Architecture, clarify the policy of granting interim approvals to deviate from the IRS' Enterprise Architecture, and ensure that proper management controls are in place for all non-Business Systems Modernization projects, including the Print Consolidation Project. Management's complete response to the draft report is included as Appendix VI.

Copies of this report are also being sent to the IRS managers who are affected by the report recommendations. Please contact me at (202) 622-6510 if you have questions or Scott E. Wilson, Assistant Inspector General for Audit (Information Systems Programs), at (202) 622-8510.

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### **Background**

Several management reforms enacted in the past decade have introduced requirements emphasizing the need for Federal agencies to significantly improve the management processes and methods used to select and manage information technology (IT) resources. The ultimate goal of these reforms is for agencies to focus on managing IT resources to make sound investment decisions that will measurably increase the performance of the Federal Government. In particular:

- The Clinger-Cohen Act<sup>1</sup> requires Federal agencies to have processes in place to help ensure that IT projects are being implemented at acceptable costs, within reasonable and expected time frames, and are contributing to tangible, observable improvements in mission performance.
- The Office of Management and Budget (OMB) Circular A-130, *Management of Federal Information Resources*, was updated and reissued in November 2000 to include the Clinger-Cohen Act requirement to establish effective and efficient capital planning processes for selecting, controlling, and evaluating investments in information systems.

The Treasury Inspector General for Tax Administration (TIGTA) reported in August 2001 that the Internal Revenue Service (IRS) was progressing in its compliance with the requirements of the Clinger-Cohen Act.<sup>2</sup> Specifically, the TIGTA reported, "the IRS is still developing and implementing IT investment processes envisioned in the Act. Because these processes are in various stages of being implemented, they do not yet constitute a working structure that fully complies with the provisions of the Clinger-Cohen Act."

<sup>&</sup>lt;sup>1</sup> Clinger-Cohen Act, Pub. L. No. 104-106, Division E (1996) (codified at 40 U.S.C. Chapter 25).

<sup>&</sup>lt;sup>2</sup> The Internal Revenue Service Is Making Progress, But Is Not Yet in Full Compliance With the Requirements of the Clinger-Cohen Act (Reference Number 2001-20-146, dated August 2001).

During this review, we examined the current IRS selection, control, and evaluation processes that were applied to the Print Consolidation Project. This project was initiated to support the IRS' strategy of combining corporate data processing activities (as outlined in the Fiscal Year (FY) 2001-2002 IRS Information Technology Services Strategy and Program Plan) by consolidating taxpayer notice printing capabilities from 10 locations to 2, the Detroit Computing Center (DCC) and the Ogden Campus. Taxpayer notices encompass a broad range of correspondence between the IRS and taxpayers, which, according to recent IRS estimates, will exceed 1 billion pages in Calendar Year 2003.

The equipment used in the Print Consolidation Project includes high-speed printers, inserters that mechanically place notices and accompanying pamphlets into envelopes, and sorters that organize the envelopes by postal codes. The latest addition to this configuration is the Notice Delivery System (NDS), a server-based system that will be able to electronically sort notices before printing and provide control of individual notices throughout notice processes.

This audit was conducted at the DCC in Detroit, Michigan, and in the IRS offices in Washington, D.C. and New Carrollton, Maryland, from August 2001 to April 2002. This audit was scheduled as part of the TIGTA's FY 2002 Annual Audit Plan and was conducted in accordance with *Government Auditing Standards*. Detailed information on our audit objective, scope, and methodology is presented in Appendix I. Major contributors to the report are listed in Appendix II.

Initial Efforts To Consolidate Notice Printing Activities Have Made Significant Progress The Print Consolidation Project was selected and approved in a period where the IRS was beginning to implement processes designed to meet the requirements of the Clinger-Cohen Act in FY 2000. IRS customers and representatives of the Information Technology Services (ITS) organization prioritized the Print Consolidation Project as a top information systems investment in May 2000. The Print Consolidation Project was initially

listed as a Tier B Project as defined in the IRS' Enterprise Life Cycle (ELC).<sup>3</sup>

The Print Consolidation Project has produced several operational successes, including:

- From July 2000 through December 2000, initial contracts were awarded and the first printers, inserters, and sorters were readied for production at the DCC and the Ogden Campus in accordance with the planned schedule.
- During 2001, the consolidated printing sites handled over 20 percent of the IRS' notice print volume, which alleviated the notice print volume concerns at the IRS' 10 Campuses.
- In September 2001, the initial contract for the NDS was awarded.
- In 2002 and 2003, the consolidated sites plan to absorb the IRS' notice printing by adding 40 percent of the notice volume in each of these successive years.

The Clinger-Cohen Act requires a strong and comprehensive IT capital planning process to assure that an agency's IT-related expenditures receive the executive-level oversight needed to properly select and monitor the most critical projects. OMB Circular A-130 has implemented the Clinger-Cohen Act requirements by establishing capital planning processes for the selection, control, and evaluation of IT investments and by requiring each agency to establish a portfolio of IT projects that supports its mission.

The IRS has established selection and monitoring processes and executive steering committees to oversee the funds in its Information Technology Investment Account (ITIA), which is used for the IRS' Business Systems Modernization (BSM) initiatives, or Tier A projects. To obtain ITIA

The Internal Revenue Service's Process for Selecting and Monitoring Systems Improvement Projects Needs To Be Revised To Comply With Clinger-Cohen Act Requirements

<sup>&</sup>lt;sup>3</sup> The IRS' ELC defines projects as Tier A, large-scale modernization projects; Tier B, projects that modify or enhance an existing system or process; or Tier C, projects that are required to maintain or extend the life of an existing system or process.

funding, projects must provide justification and be prioritized and selected by an investment review board composed of multifunctional business executives.

Similar processes have been established for Tier B projects, or projects that provide a bridge between the current and modernization architectures. The Business Systems Planning (BSP)/Division Information Officers (DIO) Council reviews project plans and documentation and selects projects to allocate Tier B funds. The BSP offices work with the IRS' four Business Operating Divisions (BOD)<sup>4</sup> to identify business needs and work with the DIOs in the ITS organization to ensure the IT requests within each organization are adequately communicated to the Council.

During our review, we found that no centralized selection and monitoring process has been established for the improvement projects, such as the Print Consolidation Project, that are managed by the ITS Operating Divisions. These projects are not funded from the Tier A and B budgets. Although the Print Consolidation Project was initially categorized as a Tier B project, it was funded out of the improvement projects budget for the Enterprise Operations Division. Consequently, the project followed the less-structured selection and monitoring processes of the Enterprise Operations Division.

Under this less-structured process, the NDS addition to the Print Consolidation Project was not competed against all other ITS improvement projects as part of a portfolio review by an agency investment review board, as required by the Clinger-Cohen Act. Specifically, the NDS was submitted for approval in May 2001 as an improvement project under the Print Consolidation Project, although the original approval for the Print Consolidation Project did not include the NDS. The NDS was competed only against other Enterprise Operations Division improvement projects and later approved by the Chief, ITS. The NDS was funded for

<sup>&</sup>lt;sup>4</sup> The IRS' four new BODs were created during its reorganization. The BODs are Wage and Investment, Small Business/Self-Employed, Tax Exempt and Government Entities, and Large and Mid-Size Business.

total project, or life cycle, costs of \$11 million, a 7 percent increase in the life cycle costs of the Print Consolidation Project, which was originally funded for \$155 million.

In addition, an executive oversight board or steering committee process has not been established for monitoring all improvement projects. Steering committees serve a key role in monitoring and overseeing projects by involving executive management in directing and controlling projects, such as advancing a project from one milestone to the next, and helping ensure compliance with life cycle policies and documentation standards. While the Print Consolidation Project serves all of the IRS' BODs, it does not report to a multifunctional steering committee representing these organizations.

These conditions occurred because the processes to select and monitor improvement projects are decentralized across the ITS Operating Divisions. Consequently, there is not a centralized multifunctional investment review board to select and monitor ITS improvement projects.

As a result, prioritization and monitoring of improvement projects is handled within the ITS Operating Divisions, which makes comparison of competing projects across the IRS more difficult and decreases the oversight requirements for improvement projects. Consequently, the IRS cannot ensure that its systems improvement project funds are being effectively and efficiently used to achieve its business priorities in accordance with Clinger-Cohen Act requirements. As illustrated in the chart below, improvement project funds under the ITS Operating Divisions are significantly more than those for Tier B projects. See Appendix V for a complete breakdown of improvement project funds by ITS Operating Division.

### Funding Allocations for Tier B and ITS Operating Division Improvement Projects FYs 2001-2003

Project Type	FY 2001 (Millions Dollars)	FY 2002 (Millions Dollars)	FY 2003 (Millions Dollars)
Tier B Projects	40.0	40.0	60.0
Improvement Projects	132.3	111.3	146.8
Total	172.3	151.3	206.8

Source: Modernization and Information Technology Services Program Plan FY 2002-2003 (August 7, 2001).

In addition, the lack of sufficient IT classification guidelines also contributed to the project's selection deficiencies detailed above. The TIGTA recently issued an audit report regarding the IRS' guidelines and processes for classifying IT projects.<sup>5</sup> The report recommended and IRS management agreed that it should, "establish specific objective guidelines for classifying IT projects as ITIA or non-ITIA. The guidelines should include, at a minimum, a) cost, b) development period, c) quantitative/qualitative estimate of risk, and d) integration with, or affect on, the modernization architecture." Management had initially indicated corrective actions would be completed by December 2001 but has recently delayed the actions until August 2002.

#### Recommendations

The Deputy Commissioner for Modernization & Chief Information Officer (CIO) should ensure that:

1. A centralized, multifunctional investment review process is established and documented for the selection, funding, and monitoring of all the IRS' information technology investments.

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<sup>&</sup>lt;sup>5</sup> Letter Report: Authoritative Guidelines and Processes Are Needed for Classifying Information Technology Projects (Reference Number 2001-20-152, dated September 2001).

Management's Response: The Deputy Commissioner for Modernization & CIO is developing an IT Capital Planning Guide (Guide). The Guide will describe the IRS' systematic approach to manage risks and returns of IT investments through the centralized, multifunctional investment review process for the selection, funding, and monitoring of IT investments in support of the IRS' mission, goals, and objectives. The Guide will include the IT Capital Planning process, using best management practices as required by the OMB. The Guide will provide the process framework; however, the Modernization, Information Technology, and Security (MITS) Services organization must also implement new workload prioritization practices, develop and follow through on sound business cases, and enforce project management and control practices. These additional activities will take time to perfect because they involve a shift in practice within the MITS Services organization.

Office of Audit Comment: Although we recognize the time it will take to implement new IT investment management practices, the time period for corrective action may need to be accelerated to meet Congressional expectations. Recent Congressional committee reports, regarding the Treasury and General Government Appropriation Bill for 2003,6 include expectations that funds provided under the IRS' Information Systems account, particularly for development-related activities, should be managed with the same diligence and financial controls as those activities funded through the BSM account. In addition, the Senate Appropriations Committee report directs the IRS Commissioner to "submit, concurrent with the Fiscal Year 2004 budget submission, a detailed budget justification for funds provided in the Information Systems account that outlines the specific use of all monies allocated in this appropriation, apportioning responsibility between operations and development functions, and specifying how program governance for these funds will meet the

<sup>6</sup> Senate Report 107-212, Treasury and General Government Appropriation Bill, 2003 (S.2740); House Report 107-575, Treasury, Postal Service, and General Government Appropriations Bill, 2003

(H.R.5120).

appropriate and rigorous requirements set for comparable activities in Business Systems Modernization."

 The planned corrective actions based on the prior TIGTA report to develop objective criteria or thresholds for the classification of ITIA and non-ITIA projects specifically include criteria for projects that are now considered improvement projects.

Management's Response: The Deputy Commissioner for Modernization & CIO is developing an IT Capital Planning Guide. This Guide will describe the IRS' systematic approach to manage risks and returns of IT investments, including projects now considered improvement projects, in support of the IRS' mission, goals, and objectives.

Print Consolidation Project Computer Systems Are Not Compliant With Internal Revenue Service Requirements The IRS' Enterprise Architecture specifies the computer systems on which IRS systems are to be hosted. For mid-range, or Tier 2, application and data support systems, the required architecture is a Sun-based system. The Distributed Systems Management Branch (DSMB) has the responsibility for reviewing proposed Tier 2 acquisitions for compliance with the IRS' Enterprise Architecture. This review process includes reviewing the requisition, description, and justification of the procurement and comparing it against IRS hardware and software standards.

The NDS can be considered a Tier 2 application and data support system, and therefore subject to the requirements of the Enterprise Architecture, when the NDS' interaction with another IRS project, Notice Viewing, is considered. The Notice Viewing Project will enable IRS caseworkers to view an actual copy of the notice the taxpayer receives and, if necessary, print a replacement copy. The NDS will support the Notice Viewing Project by providing taxpayer notice data to the Notice Viewing system.

The computer system chosen for the NDS does not conform to the IRS' Enterprise Architecture requirements because it does not reside on one of the two approved Tier 2 systems. The NDS is hosted on an IBM RS6000 system running IBM's proprietary version of the Unix-based operating system.

According to the Print Consolidation Project Office, the IBM system was chosen for the NDS because:

- The system chosen for the NDS was considered complete and ready to operate (i.e., a turnkey system).
- The printing software used by the NDS was incompatible with other Unix-based systems.
- Modification of the printing software for use on another Unix-based system would have required significant time and cost to develop and tune the software.
- The performance of the printing software could not be guaranteed on another Unix-based system.

However, no formal justification was prepared to support the purchase of the non-compliant system for the NDS. The baseline business case for the NDS does not analyze alternate printing solutions for the NDS and does not justify why the chosen printing software and system were selected. In addition, a 1-year interim approval was granted by the DSMB to procure non-architecturally compliant hardware and software for the NDS, although no justification was provided to support the selection of the chosen solution for the NDS. The interim approval stated that any purchase of hardware or software after that year would require a waiver from the Tier 2 architecture requirements and noted several concerns, including which organization would provide support for the system because the IRS lacks in-house expertise on the system chosen for the NDS. As a result, this interim approval appears to establish a "de facto" authorization for non-compliant hardware and software expenditures.

If a full business case justification had been prepared for the NDS, including an evaluation of alternative solutions, then IRS management would have had documented information to determine whether the chosen system for the NDS was the best choice. Instead, the IRS selected a solution for the NDS that required the purchase of a non-compliant system costing approximately \$1.46 million in hardware, \$1.9 million in maintenance, and \$2.7 million in development costs to customize and tune the NDS over the

life of this system. If another solution had been chosen, some of these costs may have been avoided. Consequently, by not following the IRS' Enterprise Architecture requirements, the added costs for the NDS reduce the benefits the IRS expects to receive from the consolidation of its Tier 2 systems, which include reduced hardware, software, and maintenance costs.

### Recommendations

The Deputy Commissioner for Modernization & CIO should:

3. Ensure that the Print Consolidation Project Office provides a full justification for the chosen NDS solution as part of its waiver submission, which should also address the concerns raised in the interim concurrence.

Management's Response: The Project Manager, National Print Strategy (NPS), will submit an interim waiver request to the DSMB, pending the DSMB review of NDS and current IRS Enterprise Architecture standards. Based on the outcome of the review, either the DSMB will document approval of the installed system or the Project Manager, NPS, will submit a plan to bring the system into compliance with the relevant IRS Enterprise Architecture standards.

4. Clarify the policy of issuing interim approvals to procure non-compliant Tier 2 hardware and software, including guidelines on when such approvals should be granted and the requirements for necessary justifications.

<u>Management's Response</u>: The Chief, DSMB, clarified the policy, which requires conversion to standards as part of all proposed mini-computer solutions in future requisitions.

OMB Circular A-130 addresses the control of investments in information systems by requiring projects to follow a defined life cycle. Although the IRS has mandated a life cycle for its modernization projects, the ELC, no life cycle has been defined for its non-modernization projects.

During our review of the Print Consolidation Project, we identified several controls that are required by projects

Key Project Management Controls Need To Be Followed To Help Assure Project Success

following the ELC but were not applied to the Print Consolidation project. In particular:

- The required security certification and accreditation for the NDS will not be completed before the system is used in production.
- The Work Breakdown Structure (WBS), including key project dependencies and a critical path, are incomplete.
- Project cost information used for oversight is incomplete.
- An adequate risk management process has not been implemented.

These controls were not implemented because the IRS has not mandated a specific life cycle methodology and related project management controls for systems improvement projects. The TIGTA's earlier report on the consolidation of mid-level computers identified similar life cycle and project management control weaknesses for non-BSM projects. The report stated, "the IRS has not established a single disciplined process for IT projects not considered part of the modernization effort." IRS management responded that a new life cycle based on the ELC was implemented in August 2001. This ELC-Lite will be expanded to meet the requirements for all ITS non-BSM projects by January 2003.

The lack of a consistent, repeatable management approach to structuring and controlling the system development process increases the risk that projects will not be completed on time or within budget. The following sections describe each of the project control weaknesses we identified and the associated risks.

<sup>&</sup>lt;sup>7</sup> Improvements Are Needed in the Management of Mid-Level Computer Consolidation to Ensure the Accomplishment of Project Goals (Reference Number 2002-20-043, dated January 2002).

## Security certification and accreditation for the NDS will not be completed before the system is used in production

OMB Circular A-130, in combination with the Internal Revenue Manual, requires all information systems that process taxpayer data to have a security certification before being placed into operation. This security certification requires a comprehensive evaluation of technical and non-technical security features to determine the extent to which the system's design and implementation meet a specified set of security requirements. Contingency planning is a required element to be evaluated during certification. The Certification Program Office, under the direction of the Office of Security Services, is responsible for the security certification process for IRS information systems. In addition, IRS management responded to a prior TIGTA report<sup>8</sup> that they would develop a process to certify all new systems. In March 2002, the IRS completed this corrective action by integrating certification and accreditation with the ELC review process. However, as previously indicated, the ELC applies only to modernization projects.

As of April 1, 2002, the Security Certification and Accreditation package for the NDS, including a contingency plan, had not been completed and submitted to the Certification Program Office, although the NDS was placed into production in January 2002. IRS management has not formally accepted the risk of operating the NDS without certification and accreditation since a waiver to the certification process was not obtained. Not certifying the adequacy of security controls in the NDS system increases the risk of security breaches and possibly jeopardizes the privacy of over 200 million taxpayers who may receive notices. In addition, this approach contradicts management's previous response to the TIGTA report.

<sup>&</sup>lt;sup>8</sup> Certifying the Security of Internal Revenue Service Computer Systems Is Still a Material Weakness (Reference Number 2000-20-092, dated June 2000).

### The WBS, including a critical path, is incomplete

The ELC and other life cycle methodologies used by the IRS establish an approach to be used for planning, development, and management of IRS projects. At a minimum, the guidance requires the creation, maintenance, and implementation of a Project Management Plan and a WBS, which is composed of tasks and task dependencies that must be met by the project.

Overall plans for the Print Consolidation Project established that all of the IRS' notice printing operations would be transitioned from the 10 IRS Campuses to the 2 consolidated printing facilities over a 3-year period. However, the WBS for the Print Consolidation Project has been completed for only 1 year of the 3-year project. In addition, dependencies between tasks and a critical path, or a set of tasks that *must* be finished to complete the project on schedule, were not evident. The tasks specific to the NDS also were not included in the overall Print Consolidation Project WBS but were part of a separate WBS, which also did not include dependencies or a critical path. Therefore, management has no assurance that all key tasks have been properly identified, which could result in the project not being completed on schedule or within budget.

According to IRS management officials, the schedule for the first year of the Print Consolidation Project included the printing of the least complicated notices largely to alleviate notice volume pressures at the 10 IRS Campuses. Adding more complicated notices in successive years, while also implementing NDS functionality, will add complexity to the project plans. The impact of the NDS cannot be planned, monitored, and controlled if the steps of that implementation are not included in a WBS.

### Project cost information used for oversight is incomplete

According to OMB guidance, the IRS is required to prepare an IT Capital Plan that incorporates the separate Capital Asset Plans of its major IT systems. The IRS has not prepared an IT Capital Asset Plan for the Print

Consolidation Project according to these requirements, nor has it entered project information into the Information Technology Investment Portfolio System (I-TIPS),<sup>9</sup> as required by Department of the Treasury (Treasury) policy for FY 2002. While a narrative of the Print Consolidation Project has been entered in the I-TIPS system, no project-specific financial data, including specific security costs, have been included in the submissions to Treasury. Without complete information on the Print Consolidation Project, the Department-wide roll-up report used by the OMB to assess an agency's IT portfolio is incomplete. The OMB uses this data to make funding decisions, track project progress, and monitor project cost, schedule, and performance.

Additionally, the October 2001 Business Performance Review (BPR) Report, used by IRS executives to monitor program accomplishments, contains inaccurate project costs. A comparison of the costs presented in the October 2001 BPR to the actual procurement costs derived from the IRS' procurement system for the Print Consolidation Project showed the following:

BPR Reported Costs Compared to Actual Procurements for the Print Consolidation Project FYs 2000 and 2001

Fiscal Year	Costs per BPR (Millions Dollars)	Actual Costs (Millions Dollars)	Underreported (Millions Dollars)
2000	0	5.4	5.4
2001	8.4	12.9	4.5
Totals	8.4	18.3	9.9

Sources: Request Tracking System Analysis and October 2001 BPR Report.

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<sup>&</sup>lt;sup>9</sup> The I-TIPS is a Treasury system mandated for use by its agencies to report on IT investments. The reporting requirements include the preparation of an Agency Information Technology Investment Portfolio and Capital Plan and Justification for individual projects.

Significant differences in the actual and reported costs for an IT investment can mislead internal management and external reviewers as to the efficiency of a project's execution. In addition, by not accurately reporting actual costs, IRS management may not be aware of the true costs of the project and cannot act to reduce future cost overruns.

### A risk management process has not been implemented

Federal guidelines require that agencies reduce risks associated with IT projects. This is to be achieved, in part, by identifying and reporting risks to the appropriate executives and oversight bodies. Managing risks requires a process to identify, analyze, and track risks; assess the probability that risks will occur; and determine their potential impacts in such areas as cost overrun, schedule slippage, and project failure. The results of this process serve as the basis for development and implementation of risk reduction actions to either reduce the risk or resolve the issue.

An analysis of the major reporting mechanisms for IT initiatives within the ITS organization showed that significant project risks and important project data have not been accurately reported for the Print Consolidation Project. Specifically, we reviewed the quarterly Business Performance Reviews, the CIO's Top 10 biweekly reports, and the Enterprise Operations periodic staff meeting minutes to determine if significant risks to the project were reflected. We found that none of the significant risks to the Print Consolidation Project's performance were reflected in these reports. For example:

- Space issues at the Ogden Campus, an ongoing concern for the project, were not discussed in any reports. A request for additional space made in October 2001 estimated additional costs at over \$900,000.
- The non-compliance of the NDS with the Enterprise Architecture was not raised as a concern even though only an interim concurrence lasting 1 year was granted.

- Agreements with the National Treasury Employees Union (NTEU) have not been finalized for operation in the consolidated sites. These agreements involved the reduction of full-time equivalents supporting printing operations in the 10 IRS Campuses. These reports do not mention that the ongoing negotiations are only for FY 2002. Additionally, documentation that an agreement was not possible with the NTEU until the National Print Site was an official organization did not occur until December 16, 2001.
- Significant changes to the project cost figures from one quarter to the next include no explanation or justification. The absence of this information obscures what could be continuing risks to completion of the project within a planned budget or significant project scope changes.
- Print Consolidation Project costs for FY 2000 were not reported in the BPR and costs for FY 2001 were underreported by \$4.5 million. Without such information, IRS management may not be aware of the actual costs of the project and risk significant cost overruns.

In summary, the lack of a consistent, repeatable management approach to structuring and controlling the system development process increases the risk that projects will not be completed within budget or on time. As we identified, the project life cycle costs for the Print Consolidation Project have increased in each of the first 2 years of the project, which were not included in the project's original budget. Additionally, as discussed above, although the Print Consolidation Project has met its initial implementation dates, the increasing complexity of the project will require a consistent, repeatable systems development process to assure the project is completed within the planned 3-year time frame.

#### Recommendations

The Deputy Commissioner for Modernization & CIO should ensure that:

5. Print Consolidation Project management takes the necessary actions to provide proper project control over the identified weaknesses until the previously proposed corrective actions regarding the implementation of a systems life cycle for non-BSM projects are developed, implemented, and monitored throughout the ITS organization.

Management's Response: The Project Manager, NPS, will ensure proper project control. He will complete and submit a security certification and accreditation for the NDS to the appropriate Security Office; establish an overall WBS for the Print Consolidation Project (the Project), which will include critical paths, the NDS WBS, and a complete timeline for the Project; complete an Information Technology Capital Asset Plan for the Project and submit it for entry to the I-TIPS; and implement a risk management process for the Project by identifying and reporting significant risks and documenting completed corrective actions or improvements to the identified risks through the established BPR.

6. All non-BSM projects are complying with basic systems life cycle and project management controls until the previously proposed corrective actions regarding the implementation of a systems life cycle for non-BSM projects are developed, implemented, and monitored throughout the ITS organization.

Management's Response: The Chief, ITS, has recently recruited a person to provide additional oversight and authority to ensure all non-BSM projects follow basic systems life cycle and project management control.

Office of Audit Comment: While placing the responsibility for ensuring that all non-BSM projects follow a basic systems life cycle and project management controls with the recently recruited person is a positive first step, we believe a

specific plan or schedule is needed to evaluate whether non-BSM projects follow the mandated systems life cycle and address any deficiencies. As this report and a previous TIGTA report<sup>10</sup> have identified, project control weaknesses can occur without an effective systems life cycle process to enforce disciplined project management controls.

In addition, ITS management, in response to the previous TIGTA report, mandated the use of the ELC-Lite for all non-BSM projects by January 2003. However, based on management's response to this report, we are uncertain which systems life cycle non-BSM projects will follow. As indicated in the previous TIGTA report, we believe the IRS should have one life cycle methodology for all non-BSM projects. Having one methodology will assist the IRS in complying with the requirements of the Clinger-Cohen Act, facilitate greater consistency in the way projects are managed, and allow the IRS to gain expertise in one methodology.

<sup>10</sup> Improvements Are Needed in the Management of Mid-Level Computer Consolidation to Ensure the Accomplishment of Project Goals (Reference Number 2002-20-043, dated January 2002).

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Appendix I

### **Detailed Objective, Scope, and Methodology**

The overall objective of this audit was to determine whether the Internal Revenue Service (IRS) implemented adequate policies and procedures as required by legislation, including the Clinger-Cohen Act, and Federal guidance to fund and manage the Print Consolidation Project.

The scope of this audit included reviewing and evaluating the IRS' existing policies and procedures and determining whether these policies and procedures were adequate as required by legislation and Federal guidance for the selection, control, and evaluation of the Print Consolidation Project.

To accomplish our objective, we:

- I. Determined whether the IRS had implemented adequate policies and procedures as required by the Clinger-Cohen Act and Federal guidance (Office of Management and Budget (OMB) Circular A-130) for the selection of solutions for the Print Consolidation Project.
- II. Determined whether the IRS implemented adequate policies and procedures as required by the Clinger-Cohen Act and Federal guidance (OMB Circular A-130) for the control of the Print Consolidation Project.
- III. Determined whether the IRS implemented adequate policies and procedures as required by the Clinger-Cohen Act and Federal guidance (OMB Circular A-130) to evaluate the Print Consolidation Project.

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<sup>&</sup>lt;sup>1</sup> Clinger-Cohen Act, Pub. L. No. 104-106, Division E (1996) (codified at 40 U.S.C. Chapter 25).

### **Appendix II**

### **Major Contributors to This Report**

Scott E. Wilson, Assistant Inspector General for Audit (Information Systems Programs)
Gary Hinkle, Director
Michael Howard, Acting Audit Manager
Kevin Burke, Senior Auditor
Richard Greene, Senior Auditor
Anthony Knox, Senior Auditor
Mark Carder, Auditor

### **Appendix III**

### **Report Distribution List**

Commissioner N:C

Chief, Information Technology Services M:I

Director, Budget Policy, Planning and Programs M

Director, Business Systems Development M:I:SD

Director, Detroit Computing Center M:I:E:DC

Director, Enterprise Operations M:I:E

Director, Strategic Planning and Client Services M:SP

Manager, Program Oversight and Coordination Office M:SP:P:O

Chief Counsel CC

National Taxpayer Advocate TA

Director, Legislative Affairs CL:LA

Director, Office of Program Evaluation and Risk Analysis N:ADC:R:O

Office of Management Controls N:CFO:F:M

Audit Liaisons: Director, Enterprise Operations M:I:E

Manager, Program Oversight and Coordination Office M:SP:P:O

Appendix IV

### **Outcome Measures**

This appendix presents detailed information on the measurable impact that our recommended corrective actions will have on tax administration. These benefits will be incorporated into our Semiannual Report to the Congress.

### Type and Value of Outcome Measure:

Reliability of Management Information – Actual; \$9.9 million in project costs underreported in Fiscal Years 2000 and 2001 for the Print Consolidation Project (see page 14).

### Methodology Used to Measure the Reported Benefit:

We compared the project costs listed for the Print Consolidation Project in the October 2001 Business Performance Review Report with the actual procurement costs derived from the Internal Revenue Service's procurement system, the Request Tracking System, for the Print Consolidation Project.

Appendix V

# Total Project Funding Fiscal Years (FY) 2001, 2002, and 2003

Project Type	FY 2001 (Millions Dollars)	FY 2002 (Millions Dollars)	FY 2003 (Millions Dollars)
Tier A Modernization Projects	71.6	391.6	450.0
Tier B Improvement Projects	40.0	40.0	60.0
Tier C Improvement Projects	0.0	2.0	2.0
Information Technology Services (ITS) Operating Division Improvement Projects			
Information Systems Management	0.9	7.5	7.5
Application Support	16.8	27.5	43.6
Infrastructure Management	16.9	5.0	20.0
Enterprise Systems & Asset Management	0.0	5.5	5.0
Telecommunications	10.5	18.0	18.0
Enterprise Operations	79.1	25.3	25.3
End User Computing Support	8.3	17.5	22.4
End User Life Cycle	0.0	5.0	5.0
ITS Operating Division Improvement Projects Totals	132.5	111.3	146.8
Totals	244.1	544.9	658.8

Source: Modernization and Information Technology Services Program Plan FY 2002- 2003 (August 7, 2001).

**Appendix VI** 

### Management's Response to the Draft Report



DEPARTMENT OF THE TREASURY INTERNAL REVENUE SERVICE WASHINGTON, D.C. 20224

RECEIVED
JUL 3 0 2002

July 29, 2002

MEMORANDUM FOR TREASURY INSPECTOR GENERAL FOR TAX
ADMINISTRATION

FROM:

Deputy Commissioner for Modernization &

Chief Information Officer

SUBJECT:

Management Response to Draft Audit Report – "The Selection, Monitoring, and Management of Systems Improvement Projects, Such As the Print Consolidation Project, Need Modification"

(Audit #200120010)

The Modernization, Information Technology & Security Services (MITS Services) organization is committed to ensuring we have processes to select, fund, and manage information technology (IT) resources including those for the Print Consolidation Project (the Project).

We initiated the Project to support the IRS' strategy of combining corporate data processing activities. It consolidates taxpayer notice printing capabilities from ten locations into two. We successfully implemented new equipment to alleviate concerns about printing notices at IRS campuses. The Notice Delivery System (NDS), a server-based system, will electronically sort notices before printing and provide control of individual notices.

The MITS Services organization is developing an Information Technology Capital Planning Guide (the Guide). The Guide will describe the IRS' systematic approach to manage risks and returns of IT investments, including improvement projects like the Print Consolidation Project. It will ensure the centralized, multifunctional investment review process for the selection, funding, and monitoring of IT investments supports the IRS' mission, goals, and objectives. Successfully implementing IT Capital Planning will take time because it requires a shift in essential MITS Services practices, including prioritizing workloads, using strong project management techniques, and implementing sound business cases.

The Chief, Information Technology Services is ensuring:

 Proper project control of the Project, including documentation to approve the installed hardware, or a plan to bring the system into compliance with current IRS Enterprise Architecture standards

2

- A policy requiring conversion to standards as part of all proposed mini-computer solutions
- Additional oversight so all non-BSM projects follow a basic systems life cycle and project management control

We agree with the TIGTA audit's improved reliability of management information by \$9.9 million in underreported Project costs in the Business Process Review (BPR).

I have included additional details in my attached management response. If you have any questions, please call me at (202) 622-6800, or Thomas Mulcahy, Manager, Program Oversight and Coordination Office, at (202) 283-6063.

Attachment

1

Attachment

Management Response to Draft Audit Report – The Selection, Monitoring, and Management of Systems Improvement Projects, Such As the Print Consolidation Project, Need Modification (Audit #200120010)

#### Recommendation #1

The Deputy Commissioner for Modernization & Chief Information Officer (CIO) should ensure that centralized, multifunctional investment review process is established and documented for the selection, funding, and monitoring of all the IRS' information technology investments.

#### **Assessment of Cause**

At the time of the audit, Modernization, Information Technology and Security Services (MITS) had not established a centralized selection and monitoring process for improvement projects, such as the Print Consolidation Project. The processes to prioritize and monitor improvement projects were decentralized across the ITS operating divisions without a centralized multifunctional investment review board. As a result, comparing competing projects was difficult, which lead to decreased oversight of improvement projects. We could not ensure that we used systems improvement project funds efficiently for business priorities in accordance with Clinger-Cohen Act requirements.

### **Corrective Action #1**

The Deputy Commissioner for Modernization & Chief Information Officer is developing an Information Technology (IT) Capital Planning Guide (Guide). The Guide will describe the IRS' systematic approach to manage risks and returns of IT investments through the centralized, multifunctional investment review process for the selection, funding, and monitoring of IT investments in support of the IRS' mission, goals, and objectives. The Guide will include the IT Capital Planning process, using best management practices as required by the Office of Management and Budget (OMB). The Guide will provide the process framework; however, we must also implement new workload prioritization practices, develop and follow-through on sound business cases, and enforce project management and control practices. These additional activities will take time to perfect because they involve a shift in practice within MITS Services.

#### Implementation Date of Corrective Action #1

Completed:

<u>Proposed:</u> January 1, 2003 Issue IT Capital Planning Guide

#### Responsible Official for Corrective Actions #1

Deputy Commissioner for Modernization & Chief Information Officer M Director, Budget Policy, Planning, and Programs M:BP

2

**Attachment** 

Management Response to Draft Audit Report – The Selection, Monitoring, and Management of Systems Improvement Projects, Such As the Print Consolidation Project, Need Modification (Audit #200120010)

### **Monitoring Plan for Corrective Action #1**

The Director, Budget Policy, Planning, and Programs will review project business cases for compliance with the Guide. We will develop the selection, funding, and monitoring of all investments during the strategy, program planning, and budget processes. The appropriate level governance entity will review and monitor selected projects based on several criteria (e.g., significance, IRS impact, size). The governance entity will identify the appropriate governance mechanism for selected investments during the strategy, program planning, and budget processes.

3

Attachment

Management Response to Draft Audit Report – The Selection, Monitoring, and Management of Systems Improvement Projects, Such As the Print Consolidation Project, Need Modification (Audit #200120010)

#### Recommendation #2

The Deputy Commissioner for Modernization & Chief Information Officer (CIO) should ensure that the planned corrective actions based on the prior TIGTA report to develop objective criteria or thresholds for the classification of ITIA and non-ITIA projects specifically include criteria for projects that are now considered improvement projects.

#### **Assessment of Cause**

The Modernization, Information Technology and Security Services (MITS) corrective actions to develop objective criteria or thresholds for the classification of ITIA and non-ITIA projects in response to the prior TIGTA report, did not specifically address criteria for projects now considered improvement projects.

#### **Corrective Action #2**

The Deputy Commissioner for Modernization & Chief Information Officer is developing an Information Technology (IT) Capital Planning Guide (Guide). The Guide will describe the IRS' systematic approach to manage risks and returns of IT investments, including projects now considered improvement projects, in support of the IRS' mission, goals, and objectives. The Guide will include the IT Capital Planning process, using best management practices as required by the Office of Management and Budget (OMB). The Guide will provide the process framework; however, we must implement new workload prioritization practices, develop and follow-through on sound business cases, and enforce project management and control practices. These will take time to perfect because they involve a shift in practice within MITS Services.

#### **Implementation Date of Corrective Action #2**

Completed: Proposed: January 1, 2003
Issue IT Capital Planning Guide

#### Responsible Official for Corrective Actions #2

Deputy Commissioner for Modernization/Chief Information Officer M Director, Budget Policy, Planning, and Programs M:BP

### Monitoring Plan for Corrective Action #2

The Director, Budget Policy, Planning, and Programs will review project business cases for compliance with the Guide. We will develop the selection, funding, and monitoring of all investments during the strategy, program planning, and budget processes. The appropriate level governance entity will review and monitor selected projects based on several criteria (e.g., significance, IRS impact, size). The governance entity will identify the appropriate governance mechanism for selected investments during the strategy, program planning, and budget processes.

4

#### Attachment

Management Response to Draft Audit Report – The Selection, Monitoring, and Management of Systems Improvement Projects, Such As the Print Consolidation Project, Need Modification (Audit #200120010)

#### Recommendation #3

The Deputy Commissioner for Modernization & CIO should ensure that the Print Consolidation Project Office provides a full justification for the chosen NDS solution as part of its waiver submission, which should also address the concerns raised in the interim concurrence.

#### **Assessment of Cause**

The original waiver request contained insufficient documentation to fully justify selection of the system for a non-standard hardware platform. This limited our ability to approve the Notice Delivery System (NDS) application as the best choice.

#### **Corrective Actions**

- **3a.** The Project Manager, National Print Strategy (NPS), will submit an interim waiver request to Distributed Systems Management Branch (DSMB), pending the DSMB review of NDS and current IRS Enterprise Architecture standards.
- **3b.** Based on the outcome of the review, either DSMB will document approval of the installed system or the Project Manager, NPS, will submit a plan to bring the system into compliance with the relevant IRS Enterprise Architecture standards.

#### **Implementation Dates of Corrective Actions**

3a. Completed: Proposed: August 1, 2002

**3b. Completed:** Proposed: November 1, 2002

### Responsible Official for Corrective Actions #3a and #3b

Deputy Commissioner for Modernization/Chief Information Officer M Chief, Information Technology Services M:I Director, Enterprise Operations M:I:E

### Monitoring Plan for Corrective Action #3a and #3b

Management will track the waiver request through the established Business Performance Review (BPR) process.

5

#### Attachment

Management Response to Draft Audit Report – The Selection, Monitoring, and Management of Systems Improvement Projects, Such As the Print Consolidation Project, Need Modification (Audit #200120010)

#### Recommendation #4

The Deputy Commissioner for Modernization & CIO should clarify the policy of issuing interim approvals to procure non-compliant Tier 2 hardware and software, including guidelines on when such approvals should be granted and the requirements for necessary justifications.

#### **Assessment Of Cause**

No near term solution met the IRS Enterprise Architecture standards. At that time, the policy for interim approvals was not clear.

### **Corrective Action #4**

The Chief, Distributed Systems Management Branch (DSMB) clarified the policy, which requires conversion to standards as part of all proposed mini-computer solutions in future requisitions. We published this policy on the DSMB website.

#### **Implementation Date of Corrective Action #4**

Completed: June 24, 2002

Proposed:

### **Responsible Official for Corrective Action #4**

Deputy Commissioner for Modernization/Chief Information Officer M Chief, Information Technology Services M:I Director, Enterprise Operations M:I:E

#### **Monitoring Plan for Corrective Action #4**

Management will review the Tier 2 Consolidation Project Office (TCPO) database to determine the effectiveness of the waiver policy.

6

Attachment

Management Response to Draft Audit Report – The Selection, Monitoring, and Management of Systems Improvement Projects, Such As the Print Consolidation Project, Need Modification (Audit #200120010)

#### Recommendation #5

The Deputy Commissioner for Modernization & CIO should ensure that the Print Consolidation Project management takes the necessary actions to provide proper project control over the identified weaknesses until the previously proposed corrective actions regarding the implementation of a system life cycle for non-BSM projects are developed, implemented, and monitored throughout the ITS organization.

#### Assessment Of Cause

We are developing a defined life cycle for all non-modernization projects; however, Print Consolidation did not closely follow a life cycle model. Therefore, we experienced delays in security certification and risk management. Also project cost and task reporting was sometimes incomplete.

#### **Corrective Actions**

The Project Manager, National Print Strategy will ensure proper project control. He will:

- **5a**. Complete and submit a security certification and accreditation for the Notice Delivery System (NDS) to the appropriate Security Office
- **5b.** Establish an overall Work Breakdown Structure (WBS) for the Print Consolidation Project (the Project), which will include critical paths, the NDS WBS, and a complete timeline for the Project
- **5c.** Complete an Information Technology Capital Asset Plan for the Project and submit for entry to the Investment Technology Investment Portfolio System (I-TIPS)
- **5d.** Implement a risk management process for the Project by identifying and reporting significant risks and documenting completed corrective actions or improvements to the identified risks through the established Business Performance Review (BPR)

#### Implementation Date of Corrective Actions #5a through #5d

**Completed:** 

**Proposed:** November 1, 2002

Responsible Official for Corrective Actions #5a through #5d
Deputy Commissioner for Modernization/Chief Information Officer M

Chief, Information Technology Services M:I Director, Enterprise Operations M:I:E

7

Attachment

Management Response to Draft Audit Report – The Selection, Monitoring, and Management of Systems Improvement Projects, Such As the Print Consolidation Project, Need Modification (Audit #200120010)

### Monitoring Plan for Corrective Actions #5a through #5d

Management will track the waiver request through the established Business Performance Review (BPR) process.

#### Recommendation #6

The Deputy Commissioner for Modernization & CIO should ensure that all non-BSM projects are complying with basic systems life cycle and project management controls until the previously proposed corrective actions regarding the implementation of a systems life cycle for non-BSM projects are developed, implemented, and monitored throughout the ITS organization.

### **Assessment of Cause**

The Information Technology Services (ITS) organization follows the Enhanced Systems Development Lifecycle (ESDLC), a standardized software development life cycle, for work on our production systems. Because this standard has lagged behind rapidly changing technical capabilities and evolving organization structures, new non-Business Systems Modernization (non-BSM) projects took advantage of improved methods and techniques.

#### **Corrective Action #6**

The Chief, Information Technology Services has recently recruited a person to provide additional oversight and authority to ensure all non-BSM projects follow basic systems life cycle and project management control.

#### **Implementation Date of Corrective Action #6**

Completed: June 17, 2002

Proposed:

### **Responsible Official for Corrective Action #6**

Deputy Commissioner for Modernization/Chief Information Officer M Chief Information Technology Services M:I

#### Monitoring Plan for Corrective Action #6

Not Applicable.